



Establishing and Managing Wrangler and Stampede PLUS Bermudagrasses



GENERAL REQUIREMENTS FOR SEEDING AND GROWTH

- **PLANTING DATE:** Wrangler and Stampede PLUS bermudagrass seed can be planted during spring and summer months after the soil temperature has reached about 65°F. Spring plantings are usually best because of the generally higher rainfall and better growing conditions compared to summer. Summer plantings that can be irrigated are entirely feasible. The cutoff date for planting in the summer depends upon geographic location. As a general rule, the further north you plant the earlier the cutoff date. The Wrangler is a very cold tolerant bermudagrass but it has to have time to develop and establish prior to frost in the fall.
- **FULL SUNLIGHT:** Bermudagrass does best in areas receiving full sunlight, but will grow in areas shaded 25% or less of the time. More than 25% shade results in weakened stand with increased susceptibility to winter injury.
- **GOOD DRAINAGE:** Good drainage is necessary to maintain a healthy root system. Bermudagrass can withstand occasional periods of standing water, but prolonged periods of inundation or soil moisture saturation will weaken and eventually kill the stand. Areas of poor drainage should be remedied prior to planting.
- **SOIL pH:** Bermudagrass will tolerate a wide range in soil pH but optimum performance is between 6.0 and 7.0. Soil pH is best corrected prior to seeding by incorporating lime into the soil before or during seedbed preparation. The soil should be tested prior to seeding to determine if amendments are required. Your local cooperative extension office can provide information on soil testing and make recommendations to correct any problem areas.
- **SOIL FERTILITY:** A soil test will also provide you with information on the fertility level of your field. For bermudagrass to perform at its full potential, the soil should contain at least 65 lbs/acre phosphorus and 200 lbs/acre potassium. These two macronutrients help in achieving good seedling growth and faster stand establishment. Nitrogen should not be applied prior to planting unless levels are less than 25 lbs actual N per acre, or unless weeds can be controlled. Many weeds, particularly weedy grasses, are more efficient users of N than young bermudagrass seedlings and heavy N fertilization will give the weeds a competitive advantage. As the bermudagrass seedlings develop, nitrogen can be supplied to feed the growing bermudagrass plants.
- **FIELD HISTORY:** Producers need to review the cropping history of their land prior to planting the bermudagrass seed. All herbicide applications made in the last 24 months prior to seeding should be carefully scrutinized. Many of the newer herbicides have long crop rotation intervals, which can adversely affect the germination and growth of small seeded crops. Products such as 2,4D and glyphosate have very short or no crop rotation intervals, but other products such as picloram, tebuthiuron, and any of the sulfurons and triazines have substantially longer crop rotation intervals. These are only a few examples of commonly applied herbicides that may be of concern. The producer should carefully examine the label of the product that was applied or contact the local county extension personnel for further assistance.

SEEDING RATES AND APPLICATIONS

<u>APPLICATION</u>	<u>PLANTING METHOD</u>	<u>RECOMMENDED SEEDING RATE*</u>
Pasture	Conventional Tillage	10 – 12 lbs/acre
	No-Till	12 – 14 lbs/acre
	Broadcast	12 – 15 lbs/acre
Soil Stabilization	No-Till	15 – 20 lbs/acre
	Conventional Tillage	10 – 15 lbs/acre
Roadside	Conventional Tillage	40 – 80 lbs/acre
Industrial Turf	Conventional Tillage	

*Planting less than 10 lbs./acre will most likely result in an unsatisfactory stand of bermudagrass and the potential forage lost due to a poor stand will more than offset the cost of the recommended planting rate of seed.

CONVENTIONAL TILLAGE PLANTING

- **SOIL PREPARATION:** Conventional tillage in preparation for seeding is best performed by tilling the soil using a disc or chisel plow to destroy all existing vegetation, followed by multiple passes of a harrow to level and firm the soil. Ideally, following the harrowing operation one should be able to walk on the field and the footprint should leave an indentation ½ inch deep. The majority of soil particles should be marble size or smaller. On sandier soils, which are more susceptible to wind erosion, less tillage may be necessary and on heavier soils more tillage may be required to reduce the particle size if the soil was compacted. The desired result is a good firm seedbed free of perennial weeds, large clods, and debris. This preparation ensures good seed-to-soil contact that encourages uniform germination and establishment. Less than desirable preparation can be compensated for, to some extent, by adjusting the seeding rate upward.
- **PLANTING EQUIPMENT:** The best drill for planting the small bermudagrass seed is a Brillion Seeder with an alfalfa box. The front packer of the Brillion reduces particle size and firms the soil while the trailing packer places and firms the seed into the soil. This type of planter provides the best method to control the planting depth at ¼” to ½” and obtain optimum seed-to-soil contact. A grain drill, that has fluted feed, will also work if the adjustments will close down enough to get the proper seeding rate. It is important not to plant the bermudagrass seed too deep since this is generally the leading cause of stand failure. Set the openers to scratch the surface and allow the press wheels to place and cover the seed with soil.
- **QUICK GUIDE TO DETERMINING SEEDING RATE:** The seeded bermudagrass you purchased has approximately 800,000 to 900,000 seeds per pound. Accordingly, there should be from 18 to 20 seeds per square foot for each pound of seed planted on an acre. The following shows the approximate numbers of seed per square foot for the different recommended seeding rates per acre:

<u>Pounds/acre seed</u>	<u>No. Seeds/square foot</u>
8	140 - 160
10	180 - 200
12	210 - 240
15	270 - 300

Remember, although it sounds like a lot of seeds per square foot, the small size of bermudagrass seed and seedlings makes it unlikely that all seed will germinate or that all seedlings will survive. Do not lower your rates significantly or stand establishment will be slowed.

NO-TILL PLANTING

- **NO-TILLING INTO CROP STUBBLE:** Crop stubble, such as milo, soybeans, corn, or hay, makes an excellent seed bed for no-till establishment of bermudagrass. The soil is generally firm from the previous years cropping system and the residue stalks provide soil stabilization. Moisture is also preserved since very little soil is disturbed. Prior to seeding, a burndown herbicide such as glyphosate may be required to remove all existing vegetation. Allow 7 days after application for herbicide to translocate prior to seeding.
- **PLANTING EQUIPMENT:** Several brands of no-till drills are readily available for lease through NRCS offices, farmers, or implement dealers. It is preferable to use one that has a legume or small seed box since they are designed to meter small seeds more accurately. Typically these boxes will also have a setting for bermudagrass or comparable size seed to aid in setting the drill. If this option is not available a small grain box with fluted feed will suffice if the drill can be closed down enough to apply the correct rate of seed. As in the conventional tillage operation described above the depth of planting is still critical. The drill needs

to be set to plant the seed no more than ½” deep. The small seeds will struggle to emerge from greater depths.

- **COOL SEASON GRASS RENOVATION:** Cool season grass renovation, tall fescue in particular, is becoming increasingly popular in Missouri, Arkansas, Kansas, and eastern Oklahoma. Producers have struggled for many years with the problems associated with tall fescue, especially the side effects of endophyte when the animal diet relies too heavily on the fescue. Bermudagrass has proven itself an excellent addition to these grazing systems. Bermudagrass provides an abundance of forage when the fescue starts slumping in early summer and continues to provide forage through frost. The key to renovating these dominant fescue pastures is to hold off the competition from the fescue long enough to allow the bermudagrass to establish and compete with the fescue. The best recommendation at this time is to stock the fescue very heavily when it begins to grow in the spring. Continue grazing until a date can be determined when the soil temperature would reach 60° F. Depending on the location this will occur between mid April and mid May. Once an approximate planting date can be set, pull the animals off the fescue, allow it to recover for a week and apply at minimum the equivalent of 32 ounces of a glyphosate type product to the actively growing fescue. Allow the herbicide to work for 7 days and then begin the seeding process. In theory you want the fescue stubble to be very short with little residue to shade the bermudagrass seedlings. The 32 ounces of glyphosate should under normal conditions hold the fescue back long enough for the bermudagrass to establish and compete. A No-till drill as described in the above section should be used and once again maintain the planting depth from ¼” to ½” as best you can. When the fescue begins to recover some intervals of “flash grazing” or mowing may be required to keep the shading of the bermudagrass to a minimum (See the Weed Control Section for mowing and “flash grazing” practices).

FORAGE MANAGEMENT

The most important aspects of managing your Wrangler or Stampede PLUS bermudagrass are a proper fertility program and the stage of maturity at harvest. There are several extension bulletins and publications available to provide useful information on the management of bermudagrass for forage production. The following guidelines attempt to offer ‘rules of thumb’ to use in the production of Wrangler bermudagrass.

- **FERTILITY:** Bermudagrass utilizes nitrogen, phosphorous, and potassium at a ratio of approximately 4-1-3. In addition, to produce one ton of dry forage, bermudagrass must take up 50 pounds of nitrogen, 15 pounds of phosphorous, and 42 pounds of potassium. Once a reasonable yield goal is selected these numbers can be multiplied to determine the approximate amount of nutrients needed to obtain this goal providing the soil moisture is adequate during the growing season. Nitrogen not only increases forage yield but also increases the amount of protein in the forage, particularly in growth that is 5 weeks or less in age. Nitrogen also decreases the amount of water needed to produce a ton of forage. Research has shown that under conditions of low nitrogen availability, up to four times more moisture is needed to produce a ton of forage as compared to conditions of high nitrogen availability.
- **STAGE OF HARVEST:** Bermudagrass forage can be harvested by grazing or haying or using a combination of the two. Cultural and use management practices recommended for other pasture bermudagrasses are applicable to the seeded bermudagrasses. You as a producer know what works and doesn’t work in your operation. Whether you use Wrangler or Stampede PLUS primarily for grazing or as a hay crop, an important concept to remember is that forage quality is heavily influenced by maturity stage of the plant. Forage quality is generally highest in young growth and drops rapidly as the growth reaches and exceeds 5 weeks in age. High quality is maintained by grazing at an intensity that will prevent the accumulation of old forage that becomes low in quality. For haying systems, harvesting approximately every 30 days is generally recommended to maximize the amount of harvested nutrients. Properly fertilized bermudagrass harvested at this frequency will usually have 10% or more crude protein content. The producer must balance the quality of forage desired against the cost of harvesting at each cutting. The dietary needs of the livestock will be the single most important factor in determining how the producer manages the forage.

WEED CONTROL

Competition from weeds in newly seeded bermudagrass stands is a frequent and challenging problem. Currently, there are no products labeled or considered safe for preplant use on seeded bermudagrasses. Post-emergent products are available that control many broad-leaf weeds, but care should be taken to only use these products once the bermudagrass seedlings have formed small plants. There are various formulations of 2,4-D that are labeled for bermudagrass. Do not use formulations that contain dicamba or picloram before the bermudagrass has become well established. Do not apply 2,4-D type products when air temperatures are extreme or injury will result. There are no labeled herbicide products to aid in controlling grassy weeds such as crabgrass or foxtail in pasture bermudagrass. Therefore, the best recommended practices at this time are

to keep growth of the grassy weeds in check by mowing or “flash grazing” on an “as needed” basis. The desired result is to keep the weed vegetation removed to just above the top of the bermudagrass plant canopy in order to allow sunlight to reach the developing bermudagrass plants. Frequent mowing or flash grazing is better than infrequent use of either method. Mowing after the weeds reach excessive heights places large amounts of debris over the bermudagrass plants that can weaken or kill them. “Flash grazing” is a technique described best as putting a large number of livestock on a field for short periods of time to quickly graze the top growth to a desired height. This technique has been used with good success, but caution must be used to regulate the grazing interval carefully and graze when the soil is firm. For the second year of production there are more herbicide options available to aid in weed control and many are very safe on the bermudagrass. One last suggestion to remember is that a good fertility program provides the best weed control in a mature stand of grass. A healthy thick stand of grass will prevent weeds from germinating and once the bermudagrass is actively growing it will outgrow a vast majority of your problem weeds.

****ALWAYS REMEMBER TO FOLLOW THE LABEL ON ALL PESTICIDE PRODUCTS****

A ‘THANK YOU’ FROM JOHNSTON SEED COMPANY

Johnston Seed Company is a family owned business established in 1893. Johnston Seed Company carries a full line of seed products from wildflowers to bermudagrass to soybeans. Our employees take pride in the products they sell and they strive to make every purchase a success. We are especially proud of the new cold tolerant bermudagrasses, such as the Wrangler, that we produce and market from Enid, Oklahoma. On behalf of all our employees and management we would like to thank you and your regional seed distributors for your purchase and wish you all the success with it.

Wrangler Bermudagrass: PVP Number 200000065
Unauthorized Propagation Prohibited – U. S. Protected Variety – 1994 PVPA

For more information on Wrangler and other products contact your local seed distributor



Bermudagrass Seedlings



Seeded Bermudagrass Cut for Hay

Distributed by:

JOHNSTON SEED COMPANY

P.O. Box 1392
Enid, Oklahoma 73702
800-375-4613